REMARKS

This application has been reconsidered in light of the Office Action dated 06/30/2004 and the references cited therein. Applicant hereby requests reconsideration of the present application in view of the foregoing amendments.

For convenience of review the following paragraphs correspond to those rejections set forth in the Office Action dated 06/30/04:

Claim Rejections – 35 USC § 112

(1) The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as the invention.

> (2) Claims 3, 7 and 11 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
>
> The limitation "providing at least a 30% increase in bearing contact surface in comparison to an original equipment thrust bearing" renders the claim indefinite because the bearing contact surface for an original equipment thrust bearing has not been defined, and therefore a specified increase in thrust bearing surface cannot be ascertained.

Accordingly, applicant has amended Claims 3, 7, and 11 to more particularly point out and distinctly claim the subject matter which applicant regards as the invention. More particularly, applicant has amended Claims 3, 7, and 11 to specify an increase in axial length of the roller elements in the replacement thrust bearing in comparison to the axial length of the roller elements in the original equipment thrust bearing and a corresponding increase in dynamic load rating.

Thus, it is believed that Claims 3, 7, and 11 have been rendered definite and now distinctly claim the subject matter which applicant regards as the invention. Accordingly, it is respectfully submitted that the claim rejections under 35 U.S.C. 112 should be withdrawn.

Claim Rejections – 35 USC § 102

Claims 1, 4-5, 8, and 11-15 stand rejected under 35 U.S.C. 102(e) as being anticipated by Briggs (USPN 6,675,453). The appropriate paragraph of the Office Action setting forth the basis for these rejections is as follows:

Briggs discloses an improved planetary gear carrier assembly for an automatic transmission of a land vehicle in Figure 10, and a method for manufacturing an improved planetary gear carrier assembly, the carrier assembly and method comprising:

a carrier housing ***including a first mating section (128) including a central access opening (250)*** having an inside diameter of a predetermined dimension; ***the first mating section (128)*** also including at least one ***semicircular cutout (125) formed coextensively with an inner surface of the access opening***;

a second mating section (120);

a set of planetary gears (114) rotatably mounted in coplanar relation within the carrier housing ***and intermediate the first and second mating sections***; and

a replacement thrust bearing (182) residing at a location within the carrier housing accessible only through the access opening.

The replacement thrust bearing (182) is ***piloted by a counterbore formed within an interior surface of the second mating section*** of the carrier housing (see Figure 10). (***emphasis added***)

New lubricating passages 174, 176, and 178 are provided to carry lubricating fluid to the appropriate locations including to the axial bearing 182.

Anticipation Standard

The Patent Office is respectfully reminded that the standard for lack of novelty, that is for "anticipation" under 35 U.S.C. § 102(b) is one of strict identity. There must be no difference between the claimed invention and the reference disclosure, as viewed by a person of ordinary skill in the field of the invention. Scripps Clinic and Research Foundation v. Genetech, Inc., 18 U.S.P.Q. 2d 1001, 1010 (Fed. Cir. 1991).

Anticipation requires the presence in a single prior art reference disclosure of each and every element of the claimed invention, arranged as in the claim. Lindemann Maschinenfabrik GmbH v. American Hoist and Derrick Company, 221 U.S.P.Q. 481, 485 (Fed. Cir. 1984).

It is respectfully submitted that the Patent Office has not made a proper prima facie showing of anticipation in this case for the following reasons:

As the Examiner well knows Briggs (hereinafter the "453" patent) reference discloses a method of remanufacturing a transmission assembly 110 including a Ravigneaux gear set 112, with a long pinion 114 and a short pinion 116, which are supported with respect to the carrier member 120 on the pinion pins 118, 122 respectively. The carrier member 120 forms a pocket 123 to receive the input sun gear 124, which is shown in Fig. 4. Referring to Fig. 3 of the ('453) patent, the ***output shaft***

126 has been machined out, in comparison to the structure shown in Fig. 1, ***to form the enlarged pocket 125*** to receive the protruding center support hub 127 of the input sun gear 124. (see Briggs specification, column 3, lines 8-17)

As shown in Fig. 3a, ***a first roller needle bearing 129 is positioned within the pocket 125*** to cooperate with the protruding center support hub 127. Accordingly, ***the input sun gear 124 is positively located or piloted with respect to the output shaft 126.*** (see Briggs specification, column 3, lines 18-22)

Thus, ***the formation of the enlarged pocket 125 in the output shaft 126*** to receive ***roller needle bearing 129, which provides support only in a radial direction*** is the most significant structural modification disclosed in the Briggs ('453) patent.

As further shown in Briggs (Fig. 3), the output shaft 126 includes the ***radially extending flange 128***. The ***flange 128*** includes apertures 130, 132 to receive the pinion 114 and pinion pin 122, respectively, therein. (see Briggs specification, column 3, lines 23-27) The output shaft 126 is most clearly shown in Figs. 5-7 of the Briggs ('453) patent.

Misunderstood Reference Relied Upon as the Basis of the Anticipation Rejection

It is respectfully submitted that the structural elements of the Briggs ('453) reference may have been misunderstood by the Examiner because the interpretation set forth in the Office Action is unwarranted. More particularly, the Examiner's recitation of the Briggs ('453) invention as "a carrier housing including ***a first mating section 128 including a central access opening 250*** of a predetermined dimension; ***the first mating section 128*** also including ***a semicircular cutout 125 formed coextensively with an inner surface of the access opening"*** equivalent in structure and function to the present invention is clearly erroneous.

It is evident that Briggs ('453) discloses an output shaft 126 including ***a radially extending flange 128*** (Fig. 5) whereon pinion 116 and pinion pin 122 respectively are mounted. Thus, it is clear that ***flange 128 is integrally formed with shaft 126 and forms no part of the carrier member 120***, which directly contradicts the recitation set forth in the Office Action.

Further, in Briggs ('453) neither the access opening (not numbered) adjacent to the pocket 123 (Fig. 3) or, in the alternative, the access opening (not numbered) surrounding output shaft 126 includes ***at least one semicircular cutout formed coextensively with an inner surface of such access opening(s)*** as set forth in the Office Action.

In the present invention ***semicircular cutouts 165 permit insertion of an oversize thrust bearing 140 having an outside diameter larger than the access opening 250*** after assembly of the carrier housing 105 as recited in applicants Claims 1, 5, 9, and 13. Cleary the ***semicircular cutouts 165 formed coextensively with an inner surface of access opening 250*** (see Figs. 5A and 5B) as claimed in the present application are not disclosed in Briggs ('453).

To the contrary it is clear that the ***axial thrust bearing 182*** disclosed in Briggs ('453) is smaller (i.e. ***not larger***) in outside diameter than such access opening (not numbered) wherein it must necessarily be installed as shown in Fig. 3 of Briggs ('453).

Further, Briggs ('453) discloses an enlarged cylindrical pocket 125, which is machined in the output shaft 126 to receive ***a needle roller bearing 129*** (i.e. ***not an axial thrust bearing 140*** as claimed in the present invention).

In summary, Briggs ('453) clearly does not disclose each and every element of applicant's claims, which is the standard required to satisfy a prima facie showing of anticipation under 37 CFR§102. More particularly, Briggs ('453) does not disclose the following claim elements (***shown in bold print***) as recited in the Office Action:

> a carrier housing ***including a first mating section (128) including a central access opening (250)*** having an inside diameter of a predetermined dimension; ***the first mating section (128)*** also including ***at least one semicircular cutout (125) formed coextensively with an inner surface of the access opening***;
>
> a second mating section (120);
>
> a set of planetary gears (114) rotatably mounted in coplanar relation within the carrier housing and intermediate the first and second mating sections; and
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> ***a replacement thrust bearing (182)*** residing at a location within the carrier housing accessible only through the access opening.

Thus, it is respectfully submitted that the Patent Office has not made a proper prima facie showing of anticipation under 35 USC §102 for the reasons stated hereinabove and the rejection should be withdrawn.

Claim Rejections – 35 USC §103

Claims 2-3, 6-7, 14, and 9-10 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Briggs ('453). The appropriate paragraphs of the Office Action dated June 30, 2004 setting forth the basis for this rejection are as follows:

> Briggs has been described above. Briggs does not show the thrust bearing having at least fifty-two roller elements, the roller elements measuring at least 0.157 inches or providing at least a 30% increase in bearing contact surface in comparison to an original equipment thrust bearing. The Briggs reference does not specify these parameters, which would, however be a matter of design choice.
>
> It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Briggs by including at least fifty-two roller elements measuring at least 0.157 inches as a matter of design choice.

Obviousness Standard

The consistent criterion for determination of obviousness is whether the prior art would have suggested to one of ordinary skill in the art that this invention should be carried out and would have a reasonable likelihood of success viewed in light of the prior art. In re Dow Chemical Co., Appeal No. 87-1406, page 7 (decided January 25, 1988 Fed. Cir.) (citing Burlington Industries v. Quigg, 822 F.2d 1581, 1583, 3 U.S.P.Q. 2d 1436, 1438 Fed. Cir. 1987)).

The Patent Office is respectfully reminded that it has the burden under 35 U.S.C. § 103 to establish a prima facie case of obviousness. This burden can only be satisfied by showing some objective teaching in the prior art or evidence that knowledge available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. In re David H. Fine, Appeal No. 87-1319, page 6 (decided January 26, 1988, Fed. Cir.) (citing In re Piasecki, 745 F.2d 1468, 1471-72, 223 U.S.P.Q. 785, 787 (Fed. Cir. 1984)).

In re David H. Fine, supra, the Federal Circuit also held that a reference did not render the claimed combination prima facie obvious because, inter alia, the examiner ignored a material, claimed temperature limitation which was absent from the reference.

It is respectfully submitted that the Patent Office has not made a proper prima facie showing of obviousness in this case for the following reasons:

Novel Physical Distinctions Are Unobvious

As a threshold matter it is reiterated that Briggs ('453) reference, which is recited as the only basis for the obviousness rejection under 35 U.S.C. 103 does not disclose the novel structural limitations of the present invention or any equivalent structures to meet applicant's claims.

Perhaps most significantly Briggs ('453) clearly does not disclose ***at least one semicircular cutout 165 formed coextensively with an inner surface of the access opening 250*** to the carrier housing to permit installation of ***a replacement thrust bearing140 (i.e. not a roller needle bearing 129)*** residing at a location within said carrier housing accessible only through such access opening, ***wherein such replacement thrust bearing 140 has an outside diameter greater than an inside diameter of such access opening 250 and less than a linear dimension X, X' (Figs. 5A-5B) measured between such inside diameter and such semicircular cutout(s)*** to permit such a replacement thrust bearing to pass through such access opening in alignment with such semicircular cutout after assembly of the carrier housing.

It is respectfully submitted that such novel physical distinctions recited in applicant's Claims 1, 5, 9, and 13 which are not disclosed in Briggs ('453) are unobvious under 35 U.S.C. 103.

There Must Be a Basis in the Art for Modifying the Reference

Obviousness cannot be established by combining or modifying the teachings of the prior art to produce the claimed invention, *absent some teaching, suggestion, or incentive* supporting the combination. ACS Hospital Systems, Inc. v. Montefiore Hospital, 732 F. 2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). In re Geiger, 815 F.2d at 688, 2 USPQ2d at 1278 (Fed. Cir. 1987) (*emphasis added*).

In Briggs ('453) the invention is clearly stated as a method of remanufacturing a transmission assembly to stabilize the output shaft wherein a pocket is machined into the input end of the output shaft, and a modified sun gear is provided with a protruding center support hub which extends into the pocket such that the input sun gear is positively piloted to the output shaft by the protruding center support hub, thereby preventing tilting of the output shaft and reducing wear (see Summary of Invention, column 1, lines 60-67; column 2, lines 1-2).

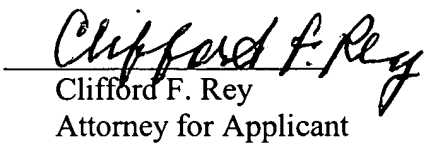
There is no teaching, suggestion, or incentive set forth in Briggs ('453), which would lead a person of ordinary skill in the art to produce the present invention. The present invention provides herein a solution to the problem of installing an oversize axial thrust bearing (***i.e. not a roller needle bearing as disclosed in Briggs '453***), having an increased dynamic load rating which is capable of withstanding the axial thrust forces generated by engagement of the planetary gears.

The axial thrust bearing must be installed at the conclusion of the manufacturing process via an access opening in the carrier housing to avoid damage to the bearing. Thus, in the Prior Art the maximum load rating of the bearing is effectively limited by the size (*i.e.* inside diameter of the opening 250) through which the bearing must be inserted during assembly. Accordingly, applicant claims an apparatus and method of resolving this problem as described hereinabove, which is not taught or suggested in Briggs ('453) and, thus, is not obvious under 35 U.S.C. 103.

For all the reasons given above, applicant respectfully submits that the application is now in full condition for allowance. Reconsideration and withdrawal of the rejections recited in the Office Action dated June 30, 2004 is requested. If any outstanding questions remain, a telephone call from the Examiner to the undersigned would be welcome.

Respectfully submitted,

Date: Sept. 27, 2004

By 

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